National Institute of Environmental Health Sciences

Environmental drivers of Ross River virus in southeastern Tasmania, Australia: Towards strengthening public health interventions

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Abstract:

In Australia, Ross River virus (RRV) is predominantly identified and managed through passive health surveillance. Here, the proactive use of environmental datasets to improve community-scale public health interventions in southeastern Tasmania is explored. Known environmental drivers (temperature, rainfall, tide) of the RRV vector Aedes camptorhynchus are analysed against cumulative case records for five adjacent local government areas (LGAs) from 1993 to 2009. Allowing for a 0-to 3-month lag period, temperature was the most significant driver of RRV cases at 1-month lag, contributing to a 23.2% increase in cases above the long-term case average. The potential for RRV to become an emerging public health issue in Tasmania due to projected climate changes is discussed. Moreover, practical outputs from this research are proposed including the development of an early warning system for local councils to implement preventative measures, such as public outreach and mosquito spray programmes. © 2011 Cambridge University Press.

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Resource Description

Early Warning System: ☑

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure : ☑

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Precipitation, Temperature

Temperature: Fluctuations

Geographic Feature: ☑

resource focuses on specific type of geography

Ocean/Coastal

Geographic Location: ☑

resource focuses on specific location

Non-United States

Non-United States: Australasia

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Vectorborne Disease

Vectorborne Disease: Mosquito-borne Disease

Mosquito-borne Disease: Ross River Virus

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology: ☑

type of model used or methodology development is a focus of resource

Outcome Change Prediction

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Short-Term (

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content